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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,694	11/30/2001	Gerald Cowley	301928.3000-100	4739
30407	7590	02/20/2004	EXAMINER	
BOWDITCH & DEWEY, LLP 161 WORCESTER ROAD P.O. BOX 9320 FRAMINGHAM, MA 01701-9320			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,694	COWLEY ET AL.	
	Examiner	Art Unit	
	MONZER R CHORBAJI	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040204</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a non-final office action in response to the amendment after final received on 12-19/2003 and also in response to the interview held on 01/07/2004 during which it was determined that the combination of the references U.S.P.N. 4,681,739 and U.S.P.N. 6,327,812 will be switched. As a result, re-opening the prosecution of the case.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-11 and 14-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedman et al (U.S.P.N. 6,327,812) in view of Rosenblatt et al (U.S.P.N. 4,681,739).

With regard to claim 1, Hedman et al discloses a method for fumigating buildings (col.1, lines 5-7) by using ozone emitters (col.3, lines 46-49 and figure 1, 20) which was previously habitable and also teaches of removing ozone from buildings (figure 1, 22, 24, and 26) after completing treatment of the building (restoring habitability). With respect to "maintaining a residual amount" is a routine experimentation when dealing with something as large as a building in order to achieve the required decontamination of the contents within. In addition, Hedman et al generates, introduces, distribute, and removes ozone from the enclosed space (figure 1, 22). However, Hedman et al fails to disclose climatizing the enclosed volume and generating chlorine dioxide. Rosenblatt et al discloses a method for fumigating an enclosed volume (col.4, lines 26-27) that contains contents requiring fumigation (col.3, lines 22-23) including the following: climatizing the enclosed volume (col.4, lines 13-16), generating chlorine dioxide gas from a source which represent a generator (col.6, lines 1-3), introducing the chlorine dioxide gas into the enclosed volume to be fumigated such that an emitter is required to let the gas in the enclosed volume (col6, lines 12-14), distributing the chlorine dioxide gas in the enclosed volume (col.4, lines 23-25), maintaining a residual amount of

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chlorine dioxide gas into the enclosed volume at a level (col.4, lines 20-23) and duration (col.4, lines 23-25) to penetrate the contents, and removing the chlorine dioxide gas from the enclosed volume (col.6, lines 21-24). Thus, it would have been obvious to one having ordinary skill in the art to substitute one known sterilant (ozone) for another (chlorine dioxide) since chlorine dioxide sterilizes at short exposure times and at near ambient temperature and near ambient pressures (Rosenblatt et al, col.2, lines 67-68 and col.3, lines 1-2).

With respect to claims 2 and 18 Rosenblatt et al removes chlorine dioxide gas from the enclosed volume (col.6, lines 21-23) and then flushes the emitter and the enclosed volume with filtered inert gas (col.6, lines 21-24). Since Rosenblatt et al teaches that in one embodiment one stream is used to introduce and exhaust the sterilant (col.4, lines 47-50), then when purging occurs, the filtered inert gas will also include the chlorine dioxide generator. In addition, scrubbing of chlorine dioxide gas is disclosed in Rosenblatt et al (col.6, lines 24-27). Further, Rosenblatt et al produces chlorine dioxide gas (stripper) from a liquid solution (col.6, lines 1-11) and introduces chlorine dioxide gas into the enclosed volume using in one embodiment only one stream (col.4, lines 47-50).

With respect to claims 3-4 Rosenblatt et al generates chlorine dioxide gas from an aqueous solution of chlorine dioxide gas in a liquid (col.6, lines 1-7).

With respect to claims 5-6 since Rosenblatt et al teaches that in one embodiment only one stream is used (col.4, lines 47-50). Then the stream (emitter) introduces chlorine dioxide into the enclosed volume and scrubs chlorine dioxide after the end of a

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sterilization cycle. Thus, the emitter is a stripper (col.6, lines 21-27). Also, as mentioned above with respect to claim 1, Hedman et al uses ozone emitters (col.3, lines 46-49 and figure 1, 20) in building, which was previously habitable and also teaches of removing ozone from buildings (figure 1, 22, 24, and 26) after completing treatment of the building (restoring habitability).

With respect to claims 7-10, 14, and 24, Rosenblatt et al teaches the following: adjusting both the relative humidity and the temperature (col.3, lines 59-61 and col.4, lines 13-15), intrinsically avoids condensation by monitoring and controlling the dew point within the enclosed volume (col.4, lines 56-61), and reducing the level of illumination (col.5, lines 19-21).

With respect to claim 11, Hedman et al teaches fumigating a building or an enclosed portion thereof (col.2, lines 50-52).

With respect to claims 15-17, 19-20, 25-30, and 34-35 Rosenblatt et al method intrinsically involves such steps. See col.4, lines 20-26.

With respect to claims 21-23 and 31-33 Rosenblatt et al teaches the following: The enclosed volume undergoes a vacuum (col.4, lines 34-35), the chlorine dioxide solution inherently has an equilibrium partial pressure (col.6, lines 1-7), the sterilant gas penetrates the contents in the enclosed volume (abstract, lines 1-10), and the enclosed volume requiring fumigation is contaminated with any type of spore (abstract, lines 11-13) including *Bacillus Anthracis*. Furthermore, Rosenblatt et al disclose various gram-positive spores (col.6, lines 48-51).

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With respect to claims 36-37, Rosenblatt et al teaches that in one embodiment only one stream is used (col.4, lines 47-50) to introduce the sterilant into the enclosed volume and to scrub the sterilant from the enclosed volume (col.6, lines 12-24). In addition, Rosenblatt et al remove the sterilant by a detoxification treatment (col.6, lines 24-27).

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedman et al (U.S.P.N. 6,327,812) in view of Rosenblatt et al (U.S.P.N. 4,681,739) and further in view of Smith et al (U.S.P.N. 4,780,333).

With respect to claim 12, both Hedman et al and Rosenblatt et al fail to provide a vehicle as an example for the enclosed volume. However, Smith et al teaches treating a vehicle (col.6, lines 32-36). Thus, it would have been obvious to one having ordinary skill in the art to modify the Hedman et al and the Rosenblatt et al methods to include treating a vehicle since there is an established relationship between respiratory ailment symptom and automobile air conditioning (Smith et al, col.1, lines 52-54).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedman et al (U.S.P.N. 6,327,812) in view of Rosenblatt et al (U.S.P.N. 4,681,739) and further in view of Halaby, Jr. (U.S.P.N. 4,272,019).

With respect to claim 13, both Hedman et al and Rosenblatt et al fail to teach distributing the sterilant by using heating ventilation and an air conditioning system. However, Halaby, Jr. teaches distributing deodorants and insecticides using an air conditioning system (col.11, lines 5-14 and lines 24-29). Thus, it would have been obvious to one having ordinary skill in the art to modify the Hedman et al and the

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Rosenblatt et al methods to include using air conditioning systems in order to gain access to another area to be treated (Halaby, Jr., col.11, lines 26-29).

7. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedman et al (U.S.P.N. 6,327,812) in view of Rosenblatt et al (U.S.P.N. 4,681,739) and further in view of Spink (U.S.P.N. 5,565,180).

With respect to claim 38, both Hedman et al and Rosenblatt et al fail to teach removing the sterilant using an aqueous mixture of a bisulfite and caustic. However, Spink teaches that the use of an aqueous mixture of a bisulfite and caustic (col.20, lines 11-16) is known for treating gases including chlorine dioxide (col.14, lines 40-44 and col.19, lines 28-32). Thus, it would have been obvious to one having ordinary skill in the art to substitute one known detoxification process (Rosenblatt et al, col.6, lines 24-27) for another (Spink, col.20, lines 11-16) since such an aqueous mixture removes chlorine dioxide gas from emissions (Spink, col.19, lines 30-32).

Response to Arguments

8. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new ground(s) of rejection since that it was observed that the combination of ('739) in view of ('812) is inappropriate. Thus, the new ground of rejection is based on switching the combination. Now, the claims are rejected as ('812) in view of ('739).

On page 9 of the response; applicant argues, "The chlorine dioxide concentrations in the range of 1.0 to 300 mg/L, roughly 1-300 ppm, preferably 10-40 ppm disclosed by Rosenblatt are orders of magnitude lower". In col.3, lines 36-43,

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Rosenblatt et al teaches that ultimately the concentrations of chlorine dioxide depends on several factors and are not limited to the suggested ranges. Thus, one skilled in the art would recognize depending on the factors considered, other ranges for the concentration of chlorine dioxide are possible.

On page 9 of the response; applicant argues, "The Hedman et al reference neither teaches nor suggests the use of chlorine dioxide to fumigate a habitable volume". The Hedman et al reference uses ozone to fumigate a habitable building such that it would have been obvious to one having ordinary skill in the art to substitute one known sterilant (ozone) for another (chlorine dioxide) since chlorine dioxide sterilizes at short exposure times and at near ambient temperature and near ambient pressures (Rosenblatt et al, col.2, lines 67-68 and col.3, lines 1-2).

On page 10 of the response, applicant argues, "One of ordinary skill in the art would not combine the chlorine dioxide of Rosenblatt with the heated air of Hedman to arrive at the present claimed invention". Rosenblatt et al recognizes that there are difficulties in handling chlorine dioxide (col.2, lines 56-57) and goes on to mix it with an inert gas. Moreover, Rosenblatt et al conducts sterilization at a certain temperature (col.4, lines 57-59) such that one skilled in the art would recognize when substituting chlorine dioxide for ozone in Hedman et al to follow the recommended temperature value of Rosenblatt et al.

On page 11 of the response, applicant argues, "the Smith reference neither discloses nor suggests the treatment of the vehicle itself, or a vehicle lacking an air conditioning system such as the trailer of Example 1 of the present application". Since

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Hedman et al fumigates a previously habitable enclosed volume, the combination of Hedman et al with Smith et al would lead one skilled in the art to fumigate the enclosed volume of a vehicle since there is an established relationship between respiratory ailment symptom and automobile air conditioning (Smith et al, col.1, lines 52-54).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 8:30-5:00.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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